

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. By this Amendment, Applicant has added new claim 68. Thus, claims 1-68 are now pending in the application. In response to the Office Action (Paper No. 8), Applicant respectfully submits that the pending claims define patentable subject matter.

As a preliminary matter, the undersigned thanks Examiner Onuaku and Examiner Tran for the courtesy of the personal interview on April 17, 2001.

Claims 1-3, 6-8, 10-12, 22, 23, 25-27, 30-32, 34-36, 39-41, 43-45, 48-50, 58, 59, 61-64 and 67 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yanagihara et al. (USP 5,899,578). Claims 2, 4, 5, 9, 33, 37, 38 and 42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagihara et al. in view of Couts et al. (USP 5,742,730). Claims 17-21, 24, 28, 29, 53-57, 60, 65 and 66 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagihara et al. in view of Lett et al. (USP 5,657,414). Claims 13-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

By this Amendment, Applicant has amended the independent claims to recite that the control command for transferring the program information is not included in the Program Specific Information (PSI) of the transport stream, as suggested by Examiners Onuaku and Tran during the interview. Applicant respectfully submits the present invention as recited in the amended independent claims is not anticipated by or rendered obvious in view of the applied references. In particular, Applicant submits that Yanagihara et al. (Yanagihara) does not teach or suggest a generating a control command for transferring a program information of an intended program in an multi-program MPEG transmission stream, and/or receiving the control command

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

and recording/reproducing the intended program of a received transport stream corresponding to the program information, wherein the control command is not included in program specific information (PSI) of the transport stream, as recited in the amended independent claims. That is, Yanagihara discloses a modifying the PSI of the transport stream, rather than generating a new control command. In particular, Yanagihara teaches that the PSI is modified by altering the PAT to include only the PID specified by the PMT having a selected program number. The audio data, video data and PSI are inserted into isochronous packets according to the IEEE-1394 standard and transmitted to the DVCR where the audio data, video data and PSI are all recorded. On the other hand, the present invention is directed to adding a new command to the AV/C CTS for transferring a program number to recording/reproducing using the asynchronous transfer mode of the IEEE-1394 standard. Similarly, Couts and Lett et al. fail to teach or suggest this feature of the present.

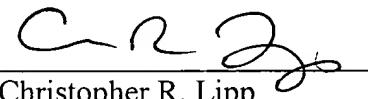
Accordingly, Applicant respectfully submits that independent claims 1, 3, 22, 26, 30, 31, 34, 35, 48, 58, 62, 67 and 68, as well as the dependent claims, should be allowable because applied references, alone or combined, do not teach or suggest all of the features of the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



Christopher R. Lipp
Registration No. 41,157

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: May 14, 2001

Attorney Docket No.: Q46562

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Twice Amended) A multi-media system comprising:

an input device for entering [one or more] program [numbers] information of intended programs;

a receiver including a first digital interface, for generating a control command based on [a] the program [number] information received from said input device, and for transferring the control command in an asynchronous transfer mode via said first digital interface; and

a recording/reproducing device including a second digital interface, for decoding the control command transferred from said receiver, and for recording/reproducing a transport stream being received, corresponding to the program [number] information obtained by decoding the received command, wherein the control command is not included in program specific information (PSI) of the transport stream.

3. (Twice Amended) A multi-media system comprising:

a receiver for receiving a transport stream and a recording/reproducing device for recording/reproducing the transport stream, said receiver comprising:

a first signal processor for parsing program specific information (PSI) of the received transport stream and decoding a video signal and an audio signal of an intended program based on the parsed PSI;

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

an input device for entering [one or more] program [numbers] information of intended programs; and

a first digital interface for receiving a program [number] informaion of an intended program from said input device, generating a program [number] information control command based on the program [number] information of the intended program, and transmitting a transport stream provided by said first signal processor and the program [number] information control command, wherein the program information control command is not included in the PSI of the transport stream; and

said recording/reproducing device comprising:

a second digital interface for receiving the program [number] information control command and the transport stream from said from said first digital interface and decoding the program [number] information control command to obtain the program [number] information of the intended program; and

a second signal processor for extracting the intended program from the transport stream received by said second digital interface, based on the program [number] information, and recording the extracted program on recording media during a recording mode, and generating a reproduced transport stream which is provided to the second digital interface during a playback mode.

6. (Twice Amended) The multi-media system of claim 3, wherein said first digital interface generates the program [number] information control command based on the parsed PSI.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

13. (Amended) The multi-media system of claim 7, wherein said first digital interface comprises:

a first microcomputer including a transaction layer and a serial bus management layer, as software, for generating [a program number] the program information control command based on [a program number] the program information received from the input device, using a write transaction and a read transaction;

a first link layer for adding an asynchronous header to the program [number] information control command received from the first microcomputer to convert the program [number] information control command into serial data; and

a first physical layer for converting the serial data into an electrical signal.

15. (Twice Amended) The multi-media system of claim 13, wherein said second digital interface comprises:

a second physical layer for converting the program [number] information control command electrical signal, transferred from said first physical layer, into digital data;

a second link layer for converting the program [number] information control command digital data into parallel data, and for removing an asynchronous header; and

a second microcomputer including a transaction layer and a serial bus management layer, as software, for recording the program [number] information on a predetermined region of a recording medium by recognizing the program [number] information control command during a

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

recording mode, and for reading out the program [number] information of the intended program recorded in the predetermined region during a playback mode.

17. (Amended) The multi-media system of claim 3, wherein said first signal processor further comprises an on-screen graphic (OSG) generator for displaying [program guide information] the PSI of a transport stream being received on an OSG display.

18. (Amended) The multi-media system of claim 17, wherein said OSG generator mixes the [program guide information] PSI with a graphic signal of a background screen to be provided to said OSG display.

19. (Amended) The multi-media system of claim 17, wherein said OSG generator mixes the [program guide information] PSI with the decoded video signal to be provided to said OSG display.

20. (Amended) The multi-media system of claim 3, wherein said first signal processor further comprises an on-screen display (OSD) generator for displaying the [program guide information] PSI of a transport stream being received on an OSD display.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

21. (Amended) The multi-media system of claim 17, wherein the second signal processor does not parse [program guide information] the PSI from a transport stream being received via the second digital interface.

22. (Twice Amended) A method for transferring and receiving a program [number] information between a receiver with a digital interface for receiving a transport stream and a recording/reproducing device with a digital interface for recording/reproducing the transport stream on/from a recording medium, the method comprising the steps of:

(a) providing a program [number] information of an intended program to be recorded; and

(b) generating a program [number] information control command corresponding to the provided program [number] information to transfer the program [number] information control command, from the receiver to the recording/reproducing device, wherein the program information control command is not included in program specific information (PSI) of the transport stream.

23. (Amended) The method of claim 22, wherein the step (a) comprises the steps of:(a1) parsing the program [guide] specific information (PSI) from the transport stream;

(a2) displaying the parsed [program guide information] PSI; and

(a3) providing the program [number] information of the intended program according to the displayed [program guide information] (PSI).

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

24. (Amended) The method of claim 23, wherein the parsed [program guide information] PSI of step (a2) is displayed on an OSG display.

26. (Amended) A method for transferring a program [number] information between a receiver with a digital interface for receiving a transport stream and a recording device with a digital interface for recording the transport stream on a recording medium, the method comprising the steps of:

- (a) providing a program [number] information of an intended program to be recorded;
- (b) transferring a command for inquiring as to whether to permit the recording of the program;
- (c) receiving a response for permitting the recording of the program from the recording device;
- (d) transferring a command for performing the recording of the program corresponding to the program [number] information provided in the step (a), wherein the command is not included in program specific information (PSI) of the transport stream; and
- (e) receiving a response for notifying of the permission of the recording of the program corresponding to the program [number] information, from the recording device.

27. (Amended) The method of claim 26, wherein the step (a) comprises the steps of:

- (a1) parsing [program guide information] the PSI from the transport stream;

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

(a2) displaying the parsed [program guide information] PSI; and
(a3) providing the program [number] information of the intended program according to
the displayed [program guide information] PSI.

28. (Amended) The method of claim 27, wherein step (a2) comprises displaying the
parsed [program guide information] PSI on an OSG display.

29. (Amended) The method of claim 27, wherein step (a2) comprises displaying the
parsed [program guide information] PSI on an OSD display.

30. (Amended) A method for receiving a program [number] information by a receiver
with a digital interface for receiving a transport stream and a reproducing device with a digital
interface for reproducing the transport stream of the program recorded on a recording medium,
the method comprising the steps of:

- (a) inquiring as to whether to permit the transfer of a program [number] information
corresponding to the program recorded on the recording medium, during a playback mode;
- (b) receiving a response for permitting the reproduction of the program from the
reproducing device;
- (c) transferring a command for requesting the program [number] information of the
program recorded on the recording medium; and

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

(d) [receiving] transferring a command indicating the program [number] information of the program recorded on the recording medium from the reproducing device, wherein the command indicating the program information is not included in program specific information (PSI) of the transport stream.

31. (Amended) A digital audio/video (A/V) device comprising:
a receiver having a digital interface, for receiving a transport stream and generating a program information control command based on [a] program [number] information received from a user, and for transferring the control command in an asynchronous transfer mode via the digital interface, wherein the program information control command is not included in program specific information (PSI) of the transport stream.

34. (Amended) A digital audio/video (A/V) recording/reproducing device comprising:
a [control command] receiver including a digital interface for [decoding] receiving a transport stream and a control command transferred from a digital audio/video (A/V) device, decoding the control command and recording/reproducing [a] the transport stream [being received,] corresponding to [a] program [number] information of the transport stream obtained by decoding the received control command, wherein the control command is not included in program specific information (PSI) of the transport stream.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

35. (Amended) A digital audio/video (A/V) device having a receiver for receiving a transport stream, wherein the receiver comprises:

a signal processor for parsing program specific information (PSI) of the received transport stream and decoding a video signal and an audio signal of an intended program based on the parsed PSI; and

a digital interface for generating a program information control command based on [a] program [number] information input by a user, and transferring a transport stream output from the signal processor and the control command, wherein the program information control command is not included in the PSI of the transport stream.

36. (Amended) The device of claim 35, further comprising an input device for inputting [a] the program number of an intended program.

41. (Amended) The device of claim 40, wherein the digital interface transfers the transport stream as isochronous packets during an isochronous transfer mode, and transfers the program [number] information as asynchronous packets during an asynchronous transfer mode using a control command set.

46. (Amended) The device of claim 38, wherein the digital interface comprises:

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

a first microcomputer including a transaction layer and a serial bus management layer as software, for generating the program information control command based on the program [number] information input via the input device, using a write transaction and a read transaction; a first link layer for adding an asynchronous header to the control command generated by the first microcomputer to convert the control command into serial data; and a first physical layer for converting the control command serial data into an electrical signal.

48. (Amended) A digital audio/video (A/V) recording/reproducing device for recording/reproducing a transport stream transferred from a digital A/V device, the recording/reproducing device comprising:

a digital interface for decoding a program [number] information command transferred from the digital A/V device and for receiving the transport stream being transferred from the digital A/V device, wherein the program information command is not included in program specific information (PSI) of the transport stream; and

a signal processor for extracting an intended program from the transport stream received by the digital interface, based on the program [number] information, and for recording the extracted result on recording media during a recording mode, and for outputting a reproduced transport stream to the digital interface during a playback mode.

51. (Amended) The device of claim 50, wherein the digital interface comprises:

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

a second physical layer for converting the program [number] information command electrical signal, transferred from the first physical layer, into digital data;

a second link layer for converting the program [number] information command digital data into parallel data, and for removing the asynchronous header; and

a second microcomputer including a transaction layer and a serial bus management layer as software, for recording the program [number] information on a predetermined region of a recording medium by recognizing the program [number] information command during a recording mode, and for reading out the program [number] information recorded in the predetermined region during a playback mode.

53. (Amended) The device of claim 48, wherein the signal processor further comprises an on-screen graphic (OSG) generator for displaying [program guide information] the PSI of a transport stream being received on an OSG display.

54. (Amended) The device of claim 53, wherein the OSG generator mixes the [program guide information] PSI with a graphic signal of a background screen to be output to the OSG display.

55. (Amended) The device of claim 54, wherein the OSG generator mixes the [program guide information] PSI with the decoded video signal to be output to the OSG display.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

56. (Amended) The device of claim 48, wherein the signal processor further comprises an on-screen display (OSD) generator for displaying the [program guide information] PSI of a transport stream being received on an OSD display.

57. (Amended) The device of claim 53, wherein the signal processor does not, in itself, parse [program guide information] the PSI from a transport stream being received via the digital interface.

58. (Amended) A method for transferring and receiving a program [number] information between a receiver with a digital interface for receiving a transport stream and a recording/ reproducing device with a digital interface for recording/reproducing the transport stream on/from a recording medium, the method comprising the steps of:

- (a) [inputting a] receiving program [number] information of an intended program to be recorded or reproduced; and
- (b) generating a command corresponding to the program [number] information input for transferring the program [number] information command [from the receiver] to the recording/ reproducing device, wherein the program information command is not included in program specific information (PSI) of the transfer stream.

59. (Amended) The method of claim 58, wherein the step (a) comprises the steps of:

- (al) parsing [program guide information] the PSI from the transport stream;

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

(a2) displaying the [parsed program guide information] PSI; and
(a3) inputting the program [number] information of the intended program according to the displayed [program guide information] PSI.

60. (Amended) The method of claim 59, wherein in the step (a2), the parsed [program guide information] PSI is displayed on an OSG display.

61. (Amended) The method of claim 58, further comprising the steps of:
(c) transferring a command for inquiring as to whether to permit the transfer of the program [number] information of the program recorded in the recording medium, from the receiver to the recording/reproducing device, during a playback mode; and
(d) receiving the program [number] information of the program recorded in the recording medium, from the recording/reproducing device.

62. (Amended) A method for transferring a program [number] information between a receiver with a digital interface for receiving a transport stream and a [recording] recording and reproducing device with a digital interface for recording the transport stream on a recording medium, the method comprising the steps of:

(a) [inputting] receiving a program [number] information of an intended program to be recorded or reproduced;

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

- (b) transferring a command for inquiring as to whether to permit the recording or reproducing of the program;
- (c) receiving a response for permitting the recording of the program from the recording and reproducing device; and
- (d) transferring a command for performing the recording of the program corresponding to the program [number] information input in the step (a), wherein the command is not included in program specific information (PSI) of the transport stream.

63. (Amended) The method of claim 62, further comprising the step of (e) receiving a response for notifying of the permission of the recording of the program corresponding to the program [number] information, from the recording and reproducing device.

64. (Amended) The method of claim 62, wherein the step (a) comprises the steps of:

- (a1) parsing [program guide information] the PSI from the transport stream;
- (a2) displaying the parsed [program guide information] PSI; and
- (a3) inputting the program [number] information of the intended program according to the displayed [program guide information] PSI.

65. (Amended) The method of claim 64, wherein in the step (a2), the parsed [program guide information] PSI is displayed on an OSG display.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 08/939,442

66. (Amended) The method of claim 64, wherein in the step (a2), the parsed [program guide information] PSI is displayed on an OSD display.

67. (Amended) A method for receiving a program [number] information by a receiver with a digital interface for receiving a transport stream and a reproducing device with a digital interface for reproducing the transport stream of the program recorded on a recording medium, the method comprising the steps of:

- (a) inquiring as to whether to permit the transfer of [a] program [number] information corresponding to the program recorded on the recording medium, during a playback mode;
- (b) receiving a response for permitting the reproduction of the program from the reproducing device;
- (c) transferring a command for requesting the program [number] information of the program recorded on the recording medium, wherein the command is not included in program specific information (PSI) of the transport stream; and
- (d) receiving the program [number] information of the program recorded on the recording medium from the reproducing device.